

HABITS OF THE STAPHYLINID BEETLE
DIANOUS NITIDULUS

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Dianous nitidulus Lec. is to be found in moss and similar cover along the swift, shady mountain brooks which drain the west side of Mount Moosilauke, near Warren, New Hampshire. All my specimens have been taken early in July. The species may be washed out like its relatives, but possesses a remarkable habit which is likely to take the collector by surprise.

On land the beetles are not particularly active, but they can skim so swiftly over running water that they disappear as if by magic in the changing shadows of the brook surface. I have had great difficulty in observing the "skimming," for I have never succeeded in getting a healthy *Dianous* into the laboratory, but the only possible explanation of the phenomenon is that the insects fly on the water partly supported by surface tension, as *Donacia* often does. This explains the fact that they bog down easily and cannot skim when bedraggled. They follow a straight or curving course, never zigzagging, and go several times faster than they can on land, so that their passage sets up a miniature, V-shaped swell. I have never seen a *Dianous* rise clear of the water as *Donacia* does, however.

The skimming habit is, of course, an admirable adaptation for a riparian beetle which lives along swift, fluctuating streams. It is shared by certain species of the related genus *Stenus*, particularly by some of the red-spotted forms which approximate *Dianous* in choice of habitat, but many *Stenus* are nearly helpless on a water film. The retiring habits and quick escape of *D. nitidulus* doubtless explain Major Casey's remark (Revision *Stenini*, page 9) that "When its localities are found, it seems to be numerous, but these are very seldom discovered."

It is barely possible that some habit of this sort, acquired by an adepagous beetle, may have started the evolution of the Gyrididæ, which are almost certainly not derived from dytiscid stock and whose ancestors very likely never possessed true diving habits.